

FINAL MEETING SUMMARY
HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE MEETING
June 2, 2005
Richland, WA

Topics in this Meeting Summary

Welcome and Introductions	1
River Pipeline Explanation of Significant Difference (ESD)	1
Integrated Disposal Facility (IDF)	4
U Plant Area Waste Sites (200-UW-1 Operable Unit Proposed Plan)	7
Central Plateau Caps and Barriers Decision Considerations	8
Technical Guidance Document for Tank Closure Environmental Impact Statement (TC-EIS) Vadose Zone and Groundwater Revised Analysis	9
Decision documents check-in and look ahead	10
Committee Business.....	10
Handouts	11
Attendees.....	11

<i>This is only a summary of issues and actions in this meeting. It may not represent the fullness of ideas discussed or opinions given, and should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.</i>

Welcome and Introductions

Pam Larsen, Chair of the River and Plateau Committee (RAP), welcomed the committee and introductions were made. Changes to the May meeting summary were made and the summary was adopted.

A call was made for committee leadership nominations. Maynard Plahuta was nominated for committee Chair and Pam Larsen was nominated for committee Vice Chair. There were no objections to the nominations, and the selections were made by committee consensus.

River Pipeline Explanation of Significant Difference (ESD)

Chuck Hedel, CH2M Hill (CHG), presented on the River Pipeline Explanation of Significant Difference. The last public forum on the topic was the 100 Area End States Public Meeting held in June 2004, from which the decision was made to conduct an engineering evaluation of the Final Disposition of the River Pipelines and Outfall Structures for the U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology). Chuck updated the committee on what has happened since 2004, summarized characterization and risk assessment results, reviewed

the pipeline remediation alternatives considered by the Tri-Party Agencies, and discussed the path forward for the river pipelines.

Pipeline characterization studies were conducted in 1984 and 1995. Not all of the pipelines were sampled during these characterization studies. Pipelines were chosen for sampling based on effluent load and age in an effort to represent worst case scenarios. Sampling results revealed the presence of several major radionuclides and metals (e.g., cobalt-60, cesium-137, europium-152, and europium-155).

Risk assessments were done on the pipelines in 1998 and 2005 in order to evaluate the need for action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The 1998 risk assessment determined that as long as pipelines remain at the bottom of the river, there is no contact pathway, and therefore no risk to human health. Ecological risk to fish was the greatest concern, but was determined to be limited to individual fish and was not expected to impact entire fish populations. The key finding was that there was no threshold for CERCLA remediation requirement.

The 2005 risk assessment evaluated what would happen if a section of pipeline were to break off, travel down river, and wash up on shore. Child and adult exposure scenarios, based on “avid recreational visitor” parameters, were modeled. It was determined there is a short-term risk of exposure, but after 17 years, exposure risk from such pipelines becomes minimal.

The alternatives evaluated as river pipeline end state alternatives include: 1) Remove and dispose; 2) In situ stabilization; 3) Partial removal and disposal or partial in situ stabilization; and 4) Institutional controls.

Regulator Perspectives

- Dennis Faulk, EPA, said the U.S. Department of Energy (DOE) contractors did a good job evaluating risk and disposition alternatives for the river pipelines. He felt the risk assessment scenarios were appropriate, but expressed EPA’s interest in obtaining the committee’s thoughts about the risk assessment scenarios.
- John Price, Ecology, said the risk assessments seemed to use a reasonable maximum exposure scenario.

Committee Discussion

The committee discussed the quality and accuracy of the data gathered during pipeline characterization.

- *It is reasonable to assume radionuclides decay over time, but the data indicate this is not happening. Why do concentrations of radionuclides seem to be increasing over time?* Chuck said different pipelines were sampled in the 1984 characterization than were sampled in the 1995 characterization, so the data are not directly comparable.

- *Only four of the sampled pipelines exhibited worst case contamination levels, and there were different pipelines exhibiting worst case contamination levels in 1984 and 1995. Therefore, does this sampling approach actually capture the worst case pipelines?* Chuck explained that when sampling was performed, sampled pipes were chosen based on their age and operational history in order to capture worst case examples. Dennis added that an extensive pipeline sampling data set exists, which seems to be a good representation of risk. The dose rate for the sampled contaminants does not seem to indicate a high risk for exposure. He maintained that as a regulator, EPA can make good decisions based on existing data.
- *The pipelines are made from carbon steel, which corrodes over time. What risks are expected as the pipelines corrode?* Chuck said there have been studies examining the rate of corrosion for the pipes, indicating that the rate of decay of the radionuclides would outpace the corrosion of the pipe, limiting the chance of exposure risks. Jim Curdy commented that the pipes will never corrode due to their composition and thickness, and are so heavy they would not float up onto the shoreline if they break away. Therefore, he believes it is unproductive to analyze such scenarios.
- *Harold Heacock expressed concern that a full fisheries review has not been done as part of the risk analysis. For example, he said, the real hazard is the impact any work with the pipelines would have on the salmon habitat in those areas. Without understanding the risks to the river's fisheries associated with existing contamination levels and potential remediation efforts, he does not believe DOE should be considering doing anything until such analysis is taken into account.* Chuck clarified that the development of the river pipeline end state alternatives was in response to interest from the 100 Area End States Workshop, and do not serve as a driver for work to be done.
- *Gerry Pollet expressed concern about the statistical confidence of pipeline characterization data. Without a high enough statistical confidence, it is impossible to know whether contamination hot spots were identified. The risk assessment ignored some significant pipelines, such as the N pipelines that were evaluated in the "Blush Report" (1991 or 1992), which indicated there was significant risk of exposure from contamination.* John Price, Ecology, said he was not familiar with the Blush Report, but confirmed there are some pipelines in the N Area that are scheduled for removal. He said the source potential for contamination is much less than for pipelines in soil, since the pipe is a quarter to three-quarters of an inch thick. Joe Voice, Department of Energy – Richland Operations Office (DOE-ORP), commented that the data collected were not intended to establish a statistical confidence level. Instead, data quality objectives were established to target risk exposure hot spots, or peaks, not inferential statistics.
- Several committee members said there were concerns about the Blush report when it was first released, and it is not a non-confrontational report.
- Committee members commented that there needs to be a tribal exposure scenario as part of the risk assessment, which would evaluate a higher exposure risk, since a tribal child would have a higher exposure risk than a recreational child due to more

time spent in a contaminated area. A tribal exposure scenario would also evaluate the costs due to a loss of access to certain areas.

- *Todd Martin said he did not think the risk assessment used a reasonable exposure scenario. Was there any State Fish and Wildlife Service or U.S. Fish and Wildlife Service input into the assessment?* Dennis said those agencies know the pipelines are out there, but remediation alternatives have not been discussed with them. He predicted their interests would be to ensure that habitat is not disturbed, or they would require a full restoration of disturbed habitat. John said DOE would have to get permit to do work in the river, which is highly unlikely, since activities that disturb the river are rarely permitted.
- Todd said that since risk is too difficult to identify and substantiate, it might not be a very useful driver in determining whether or not to do anything about the river pipelines. Instead, he believes knowing there are pipes with contaminants in the river, but not knowing what those contaminants are, is the driver, not the residual risk.
- There was general committee agreement that permitting consideration from the U.S. Army Corps of Engineers and fish and wildlife agencies should be included in the river pipeline end states alternatives. If permitting would not be granted, DOE should not spend money evaluating alternatives that would not be feasible as a result of a lack of available permits. There are other values, stronger than risk, associated with river pipelines that should be considered as part of the end state alternatives.
- *How will the ends of pipelines be terminated?* Dennis and John explained that the high water mark or low water mark are usually used as the point at which to cut a pipe and cap it with concrete.
- Based on the committee discussion, Dennis indicated there are enough unanswered questions about the river pipelines end state alternatives, that the Tri-Party agencies should go back and re-evaluate the risk assessment scenarios.

Integrated Disposal Facility (IDF)

Pam provided background on the development of advice for IDF permitting.

Susan drafted the advice and said feedback from committee members was very useful. She used past committee meeting summaries as a reference for committee discussion on the topic and looked through past advice to determine what the Hanford Advisory Board (Board) has requested agencies do in the past. Several committee members commented on the usefulness of committee meeting summaries as resources and an institutional record.

Based on her investigations and committee members' difficulty coming to agreement on appropriate language, Susan suggested the committee not provide advice on IDF at this point. She said the Board has not commended agencies enough on their efforts to develop a path forward to continue cleanup, so the Board could consider sending a letter of commendation. She congratulated the Tri-Party agencies on limiting the permit

perspective on IDF. She said it is clear there are huge concerns about size of IDF, but she is confident that Ecology is certain the limited permit allows for appropriate waste disposal and is covered by current analysis.

Laura Cusak, Ecology, added that additional analysis would be required for Ecology to issue a permit modification. Understanding that Ecology cannot issue a permit modification without additional analysis, Susan suggested the committee draft a shorter piece of advice congratulating Ecology on staying out of court to allow cleanup to move forward.

Committee Discussion

The committee discussed several potential issues with the IDF permit document and Board advice on the topic.

- Gerry Pollet expressed concerns about the coverage and adequacy of the IDF permit.
 - Gerry commented that the problem with going forward with the permit is that Ecology will never again get to review the full, cumulative impact of the IDF. Laura said that is not correct, since any new analysis would also require an evaluation of the mixed low-level waste (MLLW) side of the facility.
 - Gerry said the permit does not address whether or not DOE can import waste. He said Ecology has a duty under the State Environmental Policy Act (SEPA) to conduct a cumulative impact assessment. Laura said Ecology's duties under SEPA relate to the MLLW portion of the IDF, which there is SEPA coverage for. She indicated the decision about whether DOE can import waste will be decided by the courts. Gerry said Ecology has a duty to evaluate cumulative impacts at IDF, regardless of which side of the facility the waste is to be disposed. Laura explained there are no waste restrictions on the low-level waste (LLW) side of the IDF, and Ecology does not believe it can put restrictions on that side of the IDF.
- *Ecology was asked if they would have any duty to evaluate cumulative impacts knowing what will be put into the LLW side? Also, would it be possible or likely that the LLW side of the landfill would be expanded independent of the MLLW side?*
Laura said what is placed in the LLW side of the IDF, would be considered by Ecology when they look at cumulative impacts. Ecology expects there will be a need to expand the IDF in the future; however, she indicated, it does not make economic or design sense to expand the LLW cell without expanding the MLLW side. The engineering of the IDF would be incongruous if expansions of the two sides are not done simultaneously. Therefore, any expansion would have to involve both sides of the IDF, which would then be covered by the permit and thus result in an evaluation of cumulative impacts. Laura said the IDF is needed in the near future, since the capacity of the lined trenches will be full soon, leaving MLLW that needs to be disposed of somewhere.

- Maynard commented that the State and DOE are working well together in the process to develop a limited permit for the IDF. He wondered how cleanup work will get done if the Board expects the agencies to work together, and then throws up road blocks? If Ecology's lawyers are comfortable with the permit, the Board's role is not to suggest the work be stopped. This permit does not appear to represent a piecemeal approach. The Board has to have some level of confidence that the agencies know what they are doing.
- Pam suggested the committee draft a letter commending the agencies for their work and suggesting the permit say that any waste considered for disposal at IDF undergo a cumulative impact analysis. This permit should require that subsequent permit modifications undergo a cumulative site impact analysis, which includes waste previously in the IDF and future waste slated for disposal in the IDF.
- Gerry said he needed to make it clear that some issues are being skirted in the language of the advice being discussed by the committee. He believes the law clearly states that Ecology has the duty to conduct a cumulative impact analysis.

Considering committee discussion, Susan drafted a new piece of advice on IDF permitting, which the committee reviewed and discussed, making several changes in order to work towards consensus.

- Gerry said the newly draft advice explicitly covers three types of waste (bulk vit boxes, immobilized low activity waste [ILAW], and IDF-generated waste), but needs to cover all proposed waste going into the IDF, not those limited to the permit.
- Due to the uncertainty of future waste streams, Dick Smith said it seems appropriate to require analysis of all new waste streams proposed for disposal at the IDF. Al Boldt said the IDF permit should provide a procedure for analysis of new waste streams, so that if a new stream is added, DOE will need to do a cumulative risk analysis that includes each new waste stream.
- *Todd asked the committee what it means to say in the advice?: 1) When a permit modification is proposed, analysis needs to be done to consider all waste in the IDF or planned to be put in the IDF, or 2) All permit modifications will require an analysis of cumulative impacts to the IDF as well as a cumulative site-wide analysis.* Several committee members had concerns about permit modifications to the IDF permit also requiring a site-wide cumulative risk assessment. To address these concerns, Gerry suggested adding language, as a separate statement in the advice, advising that the Tri-Party Agreement (TPA) should require cumulative risk assessment for all waste at Hanford. There was general committee agreement with that language and approach.
- *Tom Stoops asked whether site-wide analysis could be added to the TPA as a requirement?* Dennis said a milestone could be created to address that. Before something like that was done, he said the agencies are waiting to see the language in the composite analysis.
- Susan will make edits to the draft advice, which will be sent to the committee for consensus in advance of the June Board meeting.

U Plant Area Waste Sites (200-UW-1 Operable Unit Proposed Plan)

Dick Smith, Rob Davis, Shelley Cimon, and Susan Leckband were Issue Managers for the U Plant Proposed Plan. The committee considered and discussed the initial draft of advice on the U Plant Proposed Plan.

Committee Discussion

- Rob Davis expressed concern about the use of representative and analogous sites, since they do not provide enough characterization for the U Plant Area waste sites. In addition, he has not seen an evaluation of the approach used to characterize the site.
- Dick provided the committee with his points of concern about the U Plant Proposed Plan. He said the document is well organized; however, he has several concerns: 1) The document does not use present value for evaluating costs associated with different alternatives; 2) The document does not examine rational alternatives to capping; 3) The excavation model does not match the contaminant distribution model; 4) Additional calculations and sensitivity studies are needed for analysis (especially for hybrid scenarios); 5) The document presupposes capping of 221-U.
 - John Price said Dick's past comments were very useful in helping to improve the document. If Dick needs additional information, John said the Tri-Party agencies need to find a way to provide the necessary information.
 - Craig Cameron, EPA, said the TPA agencies wrestled with writing the plan to incorporate several different groups of waste sites, especially since there would be different preferred alternatives for each group of waste sites. The agencies have had recommendations to use documents produced at the Idaho National Engineering and Environmental Laboratory as good examples of a format for such documents.

The committee took Dick's technical concerns and developed a policy statement to capture his concern about a lack of waste characterization data. Some committee members expressed concern about access to technical information and responses to committee inquiries.

- Pam commented that some committee members have requested a meeting with DOE contractors to address their concerns with the U Plant Proposed Plan and have been denied. She stated that this is not an acceptable level of response from DOE-RL. Susan added that the Board is usually most successful and helpful to the TPA agencies in its ability to turn technical information into policy level advice. In doing so, she indicated that the Board relies on Board members with technical expertise, of which the Board has years of experience. She commented that a stonewalling trend from DOE-RL has begun to emerge as the Board makes requests for information and access to technical data and information.

Committee members expressed concern about the lack of sampling data to appropriately identify the spread and extent of contaminated areas.

- *Gerry stated there is a need for pre-decisional sampling as part of initial investigational work. Therefore, he said, the U Plant Proposed Plan needs to be pulled back and re-issued with investigational sampling. Gerry said he is concerned that several waste sites are not in the waste information database. He asked to what degree a serious sampling effort and survey are conducted?* John said there are 1,099 identified waste sites in the 200 Area, which are tracked in the waste information database system. He said some of those sites were cleaned up to regulator-approved levels in the past, and all other known waste sites have been identified and a path forward has been developed to deal with them. John said the committee needs to have a future discussion and presentation from the agencies about how waste sites are identified. Dennis said data needs to be collected that identifies the location of contaminants as inputs for capping decision-making.
- Dennis asked the committee whether the U Plant Proposed Plan is a document that should be redone with an evaluation of more alternatives? If that is the case, he suggested that is an important consideration to include in advice on the document. John added that Ecology is putting more requirements into Record of Decisions (RODs) to help further efforts to conduct pre-decisional characterization.
 - *Gerry asked whether there is a mechanism for the public to influence post-decision design modeling, to determine whether waste should be retrieved or not?* John said if a decision is made to cap a site, the public probably does not have as much legal right to comment after the decision is made as they do before the decision is made. Craig added that a “plug-in” approach is used to decide what activities need to be done, so if something is being done that was not originally envisioned, that activity would have to go back out for public comment.
 - *Committee members asked whether additional alternatives brought up at this stage would be considered?* John said agencies are taking a look at those alternatives, which can be written into the ROD through a public process.
- Considering potential advice on the U Plant Proposed Plan, Todd said language in the advice needs to be more explicit with the Board’s values and statements, much of which is captured in Dick’s comments on the document. When introducing this advice to the Board, it is critical for the Board to have an understanding of the process, so they understand where the opportunities for public comment are. At the June Board meeting, the regulator agencies will explain the public comment process and DOE will provide a presentation about how the waste sites are chosen.

Central Plateau Caps and Barriers Decision Considerations

The committee reviewed and discussed draft advice on caps and barriers decision considerations developed by Rick Jansons. Penny reminded the committee to consider this piece of advice in the context of the previously adopted Board product on caps and barriers decision-making.

Committee Discussion

- Several committee members expressed concerns about the long-term stewardship and monitoring of waste sites. Lifecycle costs are seldom considered in decision-making, which may have a significant impact on the decision whether to cap a site or not. The committee agreed to add language about considering lifecycle costs in caps and barrier decision-making into the advice.
- The committee discussed concerns about the lack of federal contingency monies for things like long-term stewardship or unexpected future emergencies. Money to fund these activities will have to come from funding for other projects.
 - Maynard said funding needs could be included in the budget request if there is an early enough indication of what the needs are.
 - Long-term stewardship already appears in past advice, so current advice could refer to those pieces of advice.

The committee discussed the language in the advice and made some edits.

- Several committee members suggested advising DOE to develop a long-term stewardship fund, in order to keep monitoring and stewardship in the funding cycle and on the long-term horizon. Although this piece of advice addresses a national-level issue, the local DOE office could include a line item for long-term stewardship into the budget request.
- Todd commented that the most important thing for the Board to advise regarding caps and barriers decision-making is to require federal government responsibility for the waste. This should include provisions about providing funding for long-term stewardship.
- Dennis commented that, from a regulatory perspective, the decision to cap something can be considered a final end state decision, but saying that caps are not final causes a difficult discussion for regulatory agencies.

Committee members agreed that a final iteration of the advice would be sent out to committee members for review. Once the revised advice is sent out, silence will be considered consensus.

Technical Guidance Document for Tank Closure Environmental Impact Statement (TC-EIS) Vadose Zone and Groundwater Revised Analysis

Todd reviewed the two mandates for drafting advice from the last RAP meeting for the committee: 1) to address the apparent lack of conservatism in the infiltration rates used in the document, and 2) to address the Board's desire to execute the statement of work regarding procurement of technical expertise assistance. He indicated this piece of advice does not seem to be time critical at this point, and the Board could wait until more is known about the topic before issuing advice. In addition, Mary Beth Burandt, DOE-

ORP, said she would be ready to present the document to the committee before advice is issued.

Considering additional points recently introduced and the need for those points to be evaluated, several committee members agreed taking more time with the document is appropriate. The committee decided to schedule a joint RAP and Tank Waste Committee (TWC) meeting, which would include a DOE-ORP presentation on the document. The committee decided a prior meeting of those committee members with technical expertise should happen before the joint committee meeting in order to identify the main issues before presenting them to the broader committees. A process update on the document will still be presented at the June Board meeting.

Decision documents check-in and look ahead

There is only one new activity (Time Critical Removal Action To Dispose of Retrieved Waste From a Hanford Burial Ground) on the 2005 Meetings and Public Comment Periods Timeline. When the document comes out for public comment, Gary Peterson will review the document as lead Issue Manager for waste management issues.

Dennis said he has the BC Cribs and Trenches document in-hand, and will want to have the ROD issued by the end of the calendar year. Therefore, public comment needs to occur by September. He expressed an interest in sharing the information with the committee for committee review before the public comment period.

Committee Business

The committee discussed potential agenda topics for the next committee meeting (There was general committee agreement that nothing on the following list is time critical for July):

- Update on the Engineering Evaluation for Reactors.
- Central Plateau workgroup update.
- Groundwater Protection Program update with report on new technologies being developed. There was general committee interest in a “groundwater day,” to discuss issues pertinent to groundwater.
- Plutonium Finishing Plant update.
- Summary presentation from Mike Priddy on the radiological analysis of sediment sampling in the Columbia and Snake Rivers.
- HAB technical assistance
- Status of Hanford Risk Assessments. Joe Voice handed out copies (compact disks) of the document to interested committee members.
- Discussion of the final Risk-based End States document.
- Update on Washington Closure once the contractor transition starts. November is likely to be a good time for a discussion at a meeting.

- Fall update on spent fuels status.

Handouts

- River Pipelines: A presentation to the River and Plateau Committee, Chuck Hedel, CH2M Hill, June 2, 2005.
- Draft Advice IDF, Susan Leckband, June 2, 2005.
- U-Plant Area Waste Sites Proposed Plan and Focused Feasibility Study (draft advice), Shelley Cimon, June 2, 2005.
- Comments on the 200_UW-1 Proposed Plan, Dick Smith, June 2, 2005.
- Considerations for Barrier Application (draft advice), Rick Jansons, June 2, 2005.
- E-mail correspondence about Technical Guidance advice, Todd Martin and Dirk Dunning, June 1, 2005.
- 2005 Meetings and Public Comment Periods Timeline, June1, 2005.
- Status of Hanford Risk Assessments (compact disk), June 2005.

Attendees

HAB Members and Alternates

Al Boldt	Susan Leckband	Maynard Plahuta
Shelley Cimon	Todd Martin	Gerry Pollet
Jim Curdy	Wanda Munn	Dick Smith
Rob Davis	Vince Panesko	John Stanfield
Harold Heacock	Jerry Peltier	Tom Stoops
Pam Larsen	Gary Peterson	Dave Watrous

Others

Steve Chalk, DOE-RL	Rick Bond, Ecology	Chuck Hedel, CHG
Joe Voice, DOE-RL	Dib Goswami, Ecology	Moses Jaraysi, CHG
	John Price, Ecology	Fred Mann, CHG
Mary Beth Burandt, DOE-ORP		Todd Nelson, CHI
	Craig Cameron, EPA	Jason Mulvihill-Kuntz, EnviroIssues
	Dennis Faulk, EPA	Penny Mabie, EnviroIssues
		Barbara Wise, FH
		Dick Jaquish, WDOH